

SECTION 08211 - FLUSH WOOD DOORS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Solid-core doors with wood-veneer faces.
 - 2. Factory finishing flush wood doors.

1.3 SUBMITTALS

- A. Product Data: For each type of door. Include details of core and edge construction, trim for openings, and louvers.
 - 1. Include factory-finishing specifications.
 - 2. Include certification of certified wood products.
- B. Shop Drawings: Indicate location, size, and hand of each door; elevation of each kind of door; construction details not covered in Product Data; location and extent of hardware blocking; and other pertinent data.
 - 1. Indicate dimensions and locations of cutouts.
 - 2. Indicate fire ratings for fire doors.
- C. Samples for Initial Selection: Color charts consisting of actual materials in small sections.
 - 1. Faces of factory-finished doors with transparent finish. Show the full range of colors available for stained finishes.
- D. Samples for Verification: As follows:
 - 1. Corner sections of doors approximately 8 by 10 inches (200 by 250 mm) with door faces and edgings representing the typical range of color and grain for each species of veneer and solid lumber required. Finish sample with same materials proposed for doors.
 - 2. Frames for light openings, 6 inches (150 mm) long, for each material, type, and finish.

1.4 QUALITY ASSURANCE

- A. Source Limitations: Obtain flush wood doors through one source from a single manufacturer.
- B. Quality Standard: Comply with the following standard:
 - 1. NWWDA Quality Standard: NWWDA I.S.1-A, "Architectural Wood Flush Doors."

- C. Fire-Rated Wood Doors: Doors complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to UBC Standard 7-2.
 - 1. Test Pressure: After five minutes into the test, the neutral pressure level in the furnace shall be established at 40 inches (1000 mm) or less above the sill.
 - 2. Fire-rated doors to be Category "A."
- D. Veneers: Veneers to be from Certified Forest with certification from manufacturer/broker in turn certified by Forest Stewardship Council or SmartWood that the veneer is from sustainable forest.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Protect doors during transit, storage, and handling to prevent damage, soiling, and deterioration. Comply with requirements of referenced standard and manufacturer's written instructions.
 - 1. Individually package doors in plastic bags or cardboard cartons.
- B. Mark each door with individual opening numbers used on Shop Drawings. Use removable tags or concealed markings.

1.6 PROJECT CONDITIONS

- A. Environmental Limitations: Do not deliver or install doors until building is enclosed, wet-work is complete, and HVAC system is operating and will maintain temperature and relative humidity at occupancy levels during the remainder of the construction period.

1.7 WARRANTY

- A. General Warranty: Door manufacturer's warranty specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.
- B. Door Manufacturer's Warranty: Submit written agreement on door manufacturer's standard form, signed by manufacturer, Installer, and Contractor, agreeing to repair or replace defective doors that have warped (bow, cup, or twist) more than 1/4 inch (6 mm) in a 42-by-84-inch (1065-by-2150-mm) section or that show telegraphing of core construction in face veneers exceeding 0.01 inch in a 3-inch (0.25 mm in a 75-mm) span, or do not comply with tolerances in referenced quality standard.
 - 1. Warranty for Solid-Core Interior Doors: Life of installation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products include, but are not limited to:
 - 1. Flush Wood Doors:
 - a. Ampco Products, Inc.
 - b. Eggers Industries; Architectural Door Division.

- c. Southwood Door Company.
- d. V-T Industries Inc.
- e. Marshfield Door Systems, Inc.

2.2 DOOR CONSTRUCTION, GENERAL

- A. Doors for Transparent Finish: Comply with the following requirements:
 - 1. Grade: Premium.
 - 2. Faces: Red oak, plain sliced.
 - 3. Match between Veneer Leaves: Random match.
 - 4. Match within Door Faces: Running match.
 - 5. Pair and Set Match: Provide for pairs of doors and for doors hung in adjacent sets.
 - 6. Stiles: Same species as face or a compatible species.

2.3 SOLID-CORE DOORS

- A. Particleboard Cores: Comply with the following requirements:
 - 1. Particleboard: ANSI A208.1, Grade LD-2.
 - 2. Blocking: Provide wood blocking at particleboard-core doors as follows:
 - a. 5-inch (125-mm) top-rail blocking, at doors indicated to have closers.
 - b. 5-inch (125-mm) bottom-rail blocking, at exterior doors and doors indicated to have kick, mop, or armor plates.
 - c. 5-inch (125-mm) midrail blocking, at doors indicated to have exit devices.
- B. Interior Veneer-Faced Doors: Comply with the following requirements:
 - 1. Core: Particleboard core.
 - 2. Construction: Five or seven plies with stiles and rails bonded to core, then entire unit abrasive planed before veneering.
- C. Fire-Rated Doors: Comply with the following requirements:
 - 1. Construction: Construction and core specified above for type of face indicated or manufacturer's standard mineral-core construction as required to provide fire rating indicated.
 - 2. Blocking: For mineral-core doors, provide composite blocking with improved screw-holding capability approved for use in doors of fire ratings indicated and as follows:
 - a. 5-inch (125-mm) top-rail blocking.
 - b. 5-inch (125-mm) bottom-rail blocking, at doors indicated to have kick, mop, or armor plates.
 - c. 4-1/2-by-10-inch (114-by-250-mm) lock blocks.
 - d. 5-inch (125-mm) midrail blocking, at doors indicated to have exit devices.
 - 3. Edge Construction: At hinge stiles, provide manufacturer's standard laminated-edge construction with improved screw-holding capability and split resistance and with outer stile matching face veneer.
 - 4. Pairs: Provide fire-rated pairs with fire-retardant stiles that are labeled and listed for kinds of applications indicated without formed-steel edges and astragals. Provide stiles with concealed in tumescent seals.
 - 5. All labeled fire door assemblies to be of a type that have been classified and listed in accordance with the latest edition of ANSI/NFPA 80 and tested in compliance with NFPA-252 and UL-10C and UCB-7-2. A physical label to be permanently affixed to the fire door at an authorized facility. Furthermore, all 45, 60, and 90 minute label fire doors are to have manufacturer's standard laminated stiles for improved screw holding and split resistance capability.

6. Project requires door assemblies and components that are compliant with positive pressure and S-label requirements. Specifications must be cross-referenced and coordinated with hardware and other door manufacturers to ensure that total opening engineering is compatible with UL10C Standard for Positive Pressure Fire Tests of Door Assemblies, and UBC 7-2, Fire Tests of Door Assemblies. Provide certification(s) of compliance upon request by the Authority having Jurisdiction.

2.4 LIGHT FRAMES

- A. Wood Frames for Light Openings: As follows:
 1. Wood Species: Same species as door faces.
 2. Profile: Manufacturer's standard shape.
- B. Metal Frames for Light Openings in Fire Doors: Wood frames and metal glazing clips approved for use in 20-minute fire-rated wood-core doors. Manufacturer's standard frame formed of 0.0478-inch- (1.2-mm-) thick, cold-rolled steel sheet, factory primed and approved for use in doors of fire rating other than 20-minute.

2.5 FABRICATION

- A. Fabricate flush wood doors in sizes indicated for Project site fitting.
- B. Factory machine doors for hardware that is not surface applied. Locate hardware to comply with DHI-WDHS-3. Comply with final hardware schedules, door frame Shop Drawings, DHI A115-W series standards, and hardware templates.
 1. Coordinate measurements of hardware mortises in metal frames to verify dimensions and alignment before factory machining.
- C. Openings: Cut and trim openings through doors to comply with applicable requirements of referenced standards for kind(s) of door(s) required.
 1. Light Openings: Trim openings with moldings of material and profile indicated.

2.6 FACTORY FINISHING

- A. General: Comply with referenced quality standard's requirements for factory finishing.
- B. Finish wood doors at factory.
- C. Transparent Finish: Comply with requirements indicated for grade, finish system, staining effect, and sheen.
 1. Grade: Premium.
 2. Finish: Manufacturer's standard finish with performance requirements comparable to AWI System TR-6 catalyzed polyurethane.
 3. Staining: None required.
 4. Effect: Open-grain finish.
 5. Sheen: Satin.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine installed door frames before hanging doors.
 - 1. Verify that frames comply with indicated requirements for type, size, location, and swing characteristics and have been installed with plumb jambs and level heads.
 - 2. Reject doors with defects.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Hardware: For installation, see Division 8 Section "Door Hardware."
- B. Manufacturer's Written Instructions: Install wood doors to comply with manufacturer's written instructions, referenced quality standard, and as indicated.
 - 1. Install fire-rated doors in corresponding fire-rated frames according to NFPA 80.
 - 2. Install smoke-control doors according to NFPA 105.
- C. Job-Fit Doors: Align and fit doors in frames with uniform clearances and bevels as indicated below; do not trim stiles and rails in excess of limits set by manufacturer or permitted with fire-rated doors. Machine doors for hardware. Seal cut surfaces after fitting and machining.
 - 1. Clearances: Provide 1/8 inch (3.2 mm) at heads, jambs, and between pairs of doors. Provide 1/8 inch (3.2 mm) from bottom of door to top of decorative floor finish or covering. Where threshold is shown or scheduled, provide 1/4 inch (6.4 mm) from bottom of door to top of threshold.
 - a. Comply with NFPA 80 for fire-rated doors.
 - 2. Bevel non-fire-rated doors 1/8 inch in 2 inches (3-1/2 degrees (0.6 radians)) at lock and hinge edges.
 - 3. Bevel fire-rated doors 1/8 inch in 2 inches (3-1/2 degrees (0.6 radians)) on lock edge; trim stiles and rails only to extent permitted by labeling agency.
- D. Factory-Finished Doors: Restore finish before installation, if fitting or machining is required at Project site.

3.3 ADJUSTING AND PROTECTING

- A. Operation: Re-hang or replace doors that do not swing or operate freely.
- B. Finished Doors: Refinish or replace doors damaged during installation.
- C. Protect doors as recommended by door manufacturer to ensure that wood doors are without damage or deterioration at the time of Substantial Completion.

END OF SECTION 08211